

ECR#: P25

Tracker #: 32

Status: Ratified

Title: Remove 1394 Power and Ground Pins in the 340-pin Connector

Release Date: March 1999

Impact, High: Change to electrical portion of specification

Spec Version: NLX Motherboard Specification V1.2

Summary:

A new release of the IEEE 1394 specification includes power requirements that allow a single 12V supply as the bus power for the cable environment. Thus, separate 1394 power and ground are no longer needed for implementation. Because of this change, the pins used for 1394 power and ground have been changed to reserved.

This ECR assumes that you have previously applied the pin changes described in ECR# P14, ECR# P18, and ECR# P21 to the tables in your copy of the specification.

Change the Current Specification As Shown:

In Table 4.3, delete the two pins used for the IEEE-1394 power signal.

ORIGINAL:

Table 4.3: Power Pins/Signals, Total of 69

Signal Group	Number of Signals
5VDC	13
3.3VDC	13
SENSE3.3	1
-5V	1
-12V	1
+12V	3
Ground	31
Power Supply On/Off	1
Soft On/Off	1
Powergood	1
5VSB	1
IEEE-1394 (isolated)	2

CHANGE per this ECR plus a table entry that should have been part of ECR# P21:

Table 4.3: Power Pins/Signals, Total of 68

Signal Group	Number of Signals
5VDC	13
3.3VDC	13
SENSE3.3	1
-5V	1
-12V	1
+12V	3
Ground	31
Power Supply On/Off	1
Soft On/Off	1
Powergood	1
5VSB	1
3.3Vaux (3.3VSB) for PCI connectors on riser	1

In Table 4.7, with this new ECR, the number of Reserved pins now equals four (assuming changes have been applied from ECRs 14 and 21).

ORIGINAL plus ECRs 14 and 21:

Table 4.7: Miscellaneous and Front Panel Signals, Total of 28

Signal Group	Number of Signals
Reserved	2
Infra-Red	5
Power LED	1
Front Panel Sleep	1
Modem Wake Up	1
LAN Wake Up	1
LAN Activity	1
Front Panel Reset	1
USB	6
Fan Control	4
Tamper Detection	1
VBAT	1
Message Waiting	1
Serial bus	2

CHANGE:

Table 4.7: Miscellaneous and Front Panel Signals, Total of 30

Signal Group	Number of Signals
Reserved	4
Infra-Red	5
Power LED	1
Front Panel Sleep	1
Modem Wake Up	1
LAN Wake Up	1
LAN Activity	1
Front Panel Reset	1
USB	6
Fan Control	4
Tamper Detection	1
VBAT	1
Message Waiting	1
Serial bus	2

In Table 4.10, change the definition of pins A167 and B166.

ORIGINAL:

Table 4.10: IDE, Floppy, and Front Panel Section, Riser Interconnect Pin-out

Pin	Signal Name	Type	I/O	Termination	Pin	Signal Name	Type	I/O	Termination
...					...				
...					B166	1394_PWR	PWR	I	N/A
A167	1394_GND	PWR	O	N/A	...				

CHANGE:

Table 4.10: IDE, Floppy, and Front Panel Section, Riser Interconnect Pin-out

Pin	Signal Name	Type	I/O	Termination	Pin	Signal Name	Type	I/O	Termination
...					...				
...					B166	RESERVED	RES	N/A	N/A
A167	RESERVED	RES	N/A	N/A	...				

In Table 4.11, change the table entries in two different parts of the table. **Add** pins A167 and B166 to the Reserved section, and **delete** those same pins from the IEEE 1394 section.

Make sure you included the new footnotes from ECRs 14 and 18 that apply to the IEEE 1394 row of the table. For quick reference, those footnotes are repeated under the changed portion of the table.

ORIGINAL plus ECRs 14 and 21:

Table 4.11, IDE, Floppy, and Front Panel Signal Descriptions

Signal	Pin	I/O	Description	Signal Type
...				
Reserved RESERVED	A116 A140	N/A	These pins should not be used for any purpose. They are reserved to allow compatibility with future implementations of the interface. Compatibility problems can result if these signals are misused.	N/A
....				
IEEE 1394 1394_PWR	B166	I	Up to 1.5 Amperes of isolated power can be supplied from the power supply for IEEE-1394 powered port(s). The 1.5 Ampere limitation is the maximum capacity of the riser connector pin/gold finger connection.	Per IEEE standard 1394-1995
1394_GND	A167	O	Isolated 1394-power return to power supply.	0 volts relative to 1394_PWR
TPA+	B168	I/O	IEEE 1394-1995 port. This signal pair comprises the differential data signal for a 1394 port. Refer to the 1394-1995 specifications for more information. These pins are defined with respect to a 1394 PHY located on the motherboard. Risers implementing 1394 should have this taken into consideration in their design.	Per IEEE standard 1394-1995
TPA-	B167	I/O		
TPB+	A168	I/O	IEEE 1394-1995 port. This signal pair comprises the differential data signal for a 1394 port. Refer to the 1394-1995 specifications for more information. These pins are defined with respect to a 1394 PHY located on the motherboard. Risers implementing 1394 should have this taken into consideration in their design.	Per IEEE standard 1394-1995
TPB-	B169	I/O		

CHANGE:

Table 4.11, IDE, Floppy, and Front Panel Signal Descriptions

Signal	Pin	I/O	Description	Signal Type
...				
Reserved				
RESERVED	A116 A140 A167 B166	N/A	These pins should not be used for any purpose. They are reserved to allow compatibility with future implementations of the interface. Compatibility problems can result if these signals are misused.	N/A
....				
IEEE 1394 *, **				
TPA+	B168	I/O	IEEE 1394-1995 port. This signal pair comprises the differential data signal for a 1394 port. Refer to the 1394-1995 specifications for more information. These pins are defined with respect to a 1394 PHY located on the motherboard. Risers implementing 1394 should have this taken into consideration in their design.	Per IEEE standard 1394-1995
TPA-	B167	I/O		
TPB+	A168	I/O	IEEE 1394-1995 port. This signal pair comprises the differential data signal for a 1394 port. Refer to the 1394-1995 specifications for more information. These pins are defined with respect to a 1394 PHY located on the motherboard. Risers implementing 1394 should have this taken into consideration in their design.	Per IEEE standard 1394-1995
TPB-	B169	I/O		

I/O Column Definitions Relative to Motherboard

O = Output from motherboard to riser

I = Input from riser to motherboard

* Speed requirements/capabilities for the 1394-1995 pin assignments depend on your specific implementation.

** The pullup and pulldown networks required for each differential pair must be placed close to the pins in the PHY. This also applies for repeater PHYs.